SCIENTIFIC PUBLISHING

Multiauthor Papers on the Rise

From a scientific perspective, finding the top quark and learning how best to prevent renal disease don't have a lot in common. But they share one trait: Hundreds of researchers are claiming credit for the results.

The number of papers with more than 100 authors, once the domain of high-energy physics, is increasing rapidly in the life sciences, according to new figures from the Institute for Scientific Information in Philadelphia. Some 37 life-science papers were published last year with three-digit authorship, compared to almost none throughout most of the 1980s.

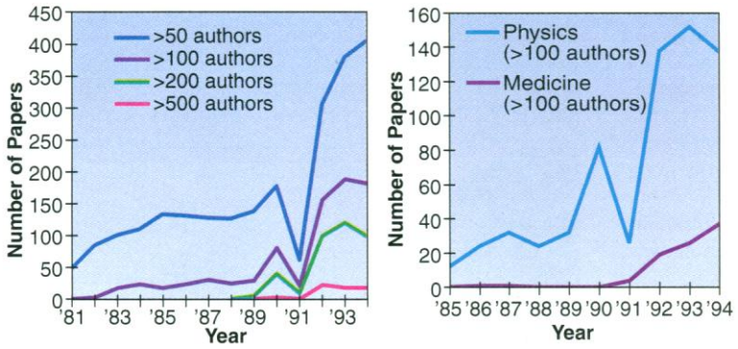
Almost all the papers report the results of large, multicenter clinical trials designed to search for causes of disease or to test the efficacy of drugs and treatments. And scientists say it is an increase in such trials, combined with the need to offer incentives to participating clinicians who recruit patients, that is responsible for the trend. "There has been a renewed emphasis in recognizing many ancillary people who contributed to the study," says Saulo Klahr, a nephrologist and principal investigator of a recent study on renal disease published in the *New England Journal of Medicine*, which clocked in at 280 authors. Adds Kenneth Rothman, editor of the journal *Epidemiology*, "You have a lot of people who are facilitating research and need publications." The result, says Rothman, "is like [credits in] a movie. Everyone gets listed."

While many journals have imposed limits on the number of main authors, relegating the rest of the cast to an appendix, enforcing such standards is difficult, says Edward Huth, former editor of the *Annals of Internal Medicine* and a leading voice in authorship debates. "Editors make poor policemen," says Huth. "The definitions of authorship really have to be worked out in academic institutions."

Huth's son, John Huth, is a Harvard University physicist and one of nearly 400 authors on a recent paper from the Fermi National Accelerator Laboratory (Fermilab) announcing the discovery of the top quark. In that field, notes Michael Peskin, a physicist at the Stanford Linear Accelerator Center (SLAC), "whoever adds to the grand paper gets to be an author." Another aspect of that phenomenon is that grand papers require grand machines, and the number of such papers plummets when those machines are temporarily out of commission. That's the reason for a sudden dip in 1991 in mega-author high-energy physics papers. Patricia Kreitz, SLAC's head librarian, says the drop occurred after two large collaborations at Europe's CERN particle physics lab finished taking data at the same time Fermilab's Tevatron accelerator was down for repairs. However, by 1992, scientists had begun major experiments at Germany's DESY facility, and the number of papers rebounded sharply.

With large clinical trials on the rise, the number of multiauthor papers in medicine is likely to keep rising, too. For example, the Women's Health Initiative at the National Institutes of Health, the largest clinical study ever undertaken, is now recruiting 169,000 patients from 40 centers, and the resulting paper trail isn't hard to predict. "If you give credit, you give it to everyone," says Curt Furberg, a Wake Forest University epidemiologist who chaired the trial's publications committee.

–Antonio Regalado



Author, author. The number of mega-author papers is rising in all fields (*left*), although it's a new phenomenon in medicine (*right*). The 1991 dip was caused by a break in data gathering and repair work at U.S. and European accelerators.

SOURCE: *SCIENCE WATCH*/INST. FOR SCIENTIFIC INFORMATION

CONSERVATION BIOLOGY

Gorillas Killed in Ugandan Park

Four of the world's most endangered primate, the mountain gorilla, have been killed by poachers in Uganda's Bwindi-Impenetrable Forest National Park, raising questions about conservation efforts there. Although the killings were not disclosed until 27 March, the bodies of the gorillas, which had been hunted with dogs and then speared to death, were discovered on 18 March, according to the International Gorilla Conservation Program (IGCP), which helps run the park.

One dead gorilla was a nursing female, but no dead infants were found, raising the suspicion that the attackers captured one or more live babies. "There is still a small but lucrative [illegal] market for endangered primates," says Ginette Hemley, director of international wildlife policy at the World Wide Fund for Nature, one of IGCP's supporters.

Until the poaching incident, the first in the park in a decade, the international conservation community had been largely enthusiastic about community-based approaches that have recently been adopted to protect Bwindi and its 300 mountain gorillas, half of the world's remaining population (*Science*, 24 March, p. 1761). However, the gorillas' deaths have fueled debate about one aspect of these efforts: the so-called "multiple use program" that allows local people limited access to forest resources such as herbs and bamboo.

The multiple use program was introduced less than 1 year ago on a pilot basis by the Development Through Conservation (DTC) program in Kabale, Uganda, that is run by the international aid organization CARE. But some conservationists, including members of Berggorilla und Regenwald Direkhilfe (BRD), a German volunteer conservation organization that operates mainly in nearby Mgahinga Gorilla National Park—the home of another 325 mountain gorillas—argue that the multiple use program is ill-conceived.

"We predicted this would happen" if the multiple use program was introduced, says Ulrich Karlowski, a biologist with BRD. By increasing human traffic into Bwindi, Karlowski maintains, the multiple use program makes it difficult for forest rangers to apprehend potential poachers. He also says it sends a message to the local people that it's acceptable to harvest and hunt in the forest regardless of the restrictions DTC tries to impose. Philip Franks, DTC project manager in Kabale, disagrees with that assessment. "DTC does a lot of work on education" to teach the local people the importance of protecting the forest and the gorillas, he says. Moreover, says Franks, the Bwindi forest, which is located in one of the world's most highly populated rural areas, "is full of people, ... and you are living in a delusion if you think" that it is possible to keep them out.

For now Bwindi's community-based conservation efforts are ticketed to continue unchanged. But the brutal killings of the four gorillas have shattered the illusion that in Bwindi, at least, the poaching of rare primates is a thing of the past.

–Rachel Nowak